

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 38 (previously presented): A system for collision avoidance in formation flight, the system on a first aircraft, the system comprising:

- a. data link transponder means for receiving broadcast data from a second aircraft, the broadcast data comprising indicia of position of the second aircraft;
- b. navigation means for providing indicia of current position of the first aircraft;
- c. means for determining relative aircraft position of the first and second aircraft in accordance with the indicia of position of the second aircraft and the indicia of the current position of the first aircraft;
- d. means for generating a steering command to maintain separation between the first aircraft and the second aircraft in accordance with relative aircraft position of the first and second aircraft; and
- e. means for transmitting the steering command to the second aircraft.

Claim 39 (previously presented): The system of claim 38 wherein the transponder means receives the broadcast data via a Mode-S data link.

Claim 40 (previously presented): The system of claim 38 wherein the transponder means receives automatic dependent surveillance broadcast data comprising the broadcast data.

Claim 41 (previously presented): The system of claim 38 wherein the transponder means receives extended squitter comprising the broadcast data.

Claim 42 (previously presented): The system of claim 38 wherein:

- a. the navigation means comprises a global positioning system; and
- b. the navigation means provides the indicia of current position in accordance with an output of the global positioning system.

Claim 43 (previously presented): The system of claim 38 wherein the means for determining relative aircraft position comprises a computer of a traffic alert and collision avoidance system.

Claim 44 (previously presented): The system of claim 43 wherein the traffic alert and collision avoidance system determines relative aircraft position without transmitting traffic interrogations.

Claim 45 (currently amended): The system of claim ~~[[44]]~~ 38 wherein the ~~traffic interrogations comprise~~ broadcast data comprises air traffic control radar beacon ~~systems~~ system messages.

Claim 46 (previously presented): The system of claim 43 wherein the traffic alert and collision avoidance system determines relative aircraft position while operating in a passive surveillance TCAS mode.

Claim 47 (previously presented): The system of claim 38 wherein:

- a. the means for determining relative aircraft position comprises a computer of a traffic alert and collision avoidance system; and
- b. the means for generating steering commands comprises a mission computer coupled to the computer of the traffic alert and collision avoidance system.

Claim 48 (previously presented): The system of claim 38 wherein the steering command is transmitted in a message comprising an address of a formation cell leader.

Claim 49 (currently amended): The system of claim 38 wherein the steering command is transmitted on a first link to the a cell leader for dissemination by the cell leader via a second link that is independent of the first link.

Claim 50 (previously presented): The system of claim 49 wherein the second link comprises a station keeping system digital datalink.

Claim 51 (previously presented): The system of claim 38 wherein:

a. the system further comprises tracking means for maintaining the relative positions of a plurality of cells;

b. the means for generating, in response to the tracking means, generates a plurality of steering commands to accomplish maintaining the relative positions of the plurality of cells; and

c. the means for transmitting transmits the plurality of steering commands by addressing selected steering commands of the plurality of steering commands to a respective cell leader of each cell of the plurality of cells.

Claim 52 (previously presented): The system of claim 51 wherein addressing to a respective cell leader is in accordance with at least one of a Mode-S address and a flight identifier.